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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/762,383      | 01/23/2004  | Kazutoshi Onozawa    | 60188-759           | 4474             |

7590 06/20/2006

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| EXAMINER |
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CAO, ALLEN T

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| ART UNIT | PAPER NUMBER |
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2627

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/762,383

Applicant(s)

ONOZAWA ET AL.

Examiner

Allen T. Cao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-7 is/are rejected.
- 7) ☒ Claim(s) 2-3 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakai et al (US. 4,721,850).

Sakai et al inherently discloses an optical pickup having a base (the part holding the objective lens and the member 71 or 91) including a movable part having an objective lens 73, a laser diode 74, photodetectors (throughout the specification), and a heat dissipating medium 80 provided in a gap between the laser diode and the base (see figure 9 particularly), all as set forth in claim 1.

Regarding claim 4, Sakai et al inherently discloses that the heat dissipating medium is deformed in accordance with the motion of the movable part (column 8, line 48 to column 9, line 3).

Regarding claim 6, Sakai et al also inherently discloses that the heat dissipating medium is “supported” by a magnetic field because this is an optical pickup for detecting from/to a medium; see also claim 2.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al in view of Tsuda (US. 2004/0223423 A1).

Regarding claims 5 and 7, Sakai et al does not disclose that the heat dissipating medium is a ferrofluid or viscous.

Tsuda discloses an optical pickup having a heat dissipating medium which is a ferrofluid or viscous (see summary of invention section).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the heat dissipating medium of the optical pickup of Sakai et al with a ferrofluid or viscous heat dissipating medium as taught by Tsuda.

The rationale is as follows: One of ordinary skill in the art would have been motivated to replace the heat dissipating medium of the optical pickup of Sakai et al with a ferrofluid or viscous heat dissipating medium as taught by Tsuda to reduce heat/thermal in the optical pickup in order to improve the read/write characteristics of the pickup.

5. Claims 2-3 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

6. Applicant's arguments filed 4/12/06 have been fully considered but they are not persuasive.

In the REMARKS, Applicant asserts that Sakai is not a proper basis for rejection because Sakai does not disclose the laser diode 74 is fixed to the pickup body, and it is not a movable part.

The Examiner respectfully points out that Applicant argue the limitation is not in the claim language. Applicant does not claim that the laser diode is movable itself. Applicant only claims that the movable part having a laser diode attached therein (emphasis added) that means the laser diode can be fixed on the movable part.

Sakai discloses a movable part (71 or 91, see also above rejection) which is movable (column 9, lines 24-25. Sakai also discloses that the movable part (71 or 91) having an objective lens 73, a laser diode 74 (see also above rejection).

Therefore, the Examiner maintains that the rejection is proper as set forth, in the above Office Action.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T. Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Cao  
Primary Examiner